

METAMORPHOSES OF COMMON CUBAN PYRGINÆ

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The four most common skippers of the subfamily Pyrginæ found in Cuba are *Goniurus proteus* L., *G. dorantes* Stoll., *Polygonus lividus* Hbn., and *Pyrgus syrictus* Fabr. The life history of *G. proteus* has been described repeatedly, and the immature stages of Cuban specimens are similar to those of North American specimens. In Cuba the larvæ feed on *Clitorea*, cultivated beans, and all native closely related Leguminosæ. *G. dorantes* feeds on the same plants. *P. lividus*, which in Florida feeds on *Piscidia piscipula*, is found on species of *Lonchocarpus* in Cuba. The larvæ found here differed slightly from those studied by Dyar (1897). For a description of the first instar of *P. syrictus* the reader is referred to an earlier paper (Dethier, 1940).

Goniurus dorantes Stoll.

Egg. Turtle green. Greatest diameter 1.0 mm. Height .8 mm. Apex patterned with large prominent raised reticulations. These gradually merge into many longitudinal ribs extending to the flattened base.

First Instar. Head height .5 mm.; head width .6 mm. Head shiny piceous to black, covered with few small, scattered, colorless, tapering hairs. Body length 2 to 3 mm. Javel green to bright chalcedony yellow. Few scattered lighter colored spots on body. Few short tapering hairs arising from black tubercles arranged in paradorsal, supra-stigmatal, and substigmatal rows. Prothoracic legs fuscous. Shield concolorous with head. Substigmatal area of shield bright orange.

Second Instar. Head height .8 mm.; head width .81 mm. Head shagreened, almost black. Hairs shorter and more numerous. With slight tawny tinge. Body length 3.5 mm.

Light greenish yellow. Many lighter pale greenish yellow spots scattered over the surface of the body. The numerous short scattered hairs arise from these. Slight bleaching of shield in the mid-dorsal line. Numerous short hairs on shield. Prothoracic legs fuscous. Hairs on anal plate black.

Third Instar. Head height 1.2 mm.; head width 1.4 mm. Head more roughly shagreened than before. Pronounced rugosities at apex of vertex. Black. Body length 7 mm. Javel green. Anterior edge of shield ochraceous orange, posterior part fuscous. Remainder of segment orange. No other noticeable changes in the body.

Fourth Instar. Same as above.

Fifth Instar. Head height 2.4 mm.; head width 2.7 mm. Head very roughly shagreened. Apex of vertex with large rugosities, larger near median line. Head fuzzy and downy in appearance due to the numerous short tawny hairs.

Eggs laid on the food plant July 11 hatched July 14. Each instar required from three to four days.

***Polygonus lividus* Hbn.**

Second Instar. Head height .8 mm.; head width .9 mm. Head black, rugose. Few scattered light colored hairs. Body length 6 mm. Dull green yellow. Mid-dorsal line faint, darker green due to transparency there. Thin, irregular, yellowish para-dorsals. Body sparsely dotted with small yellow spots. Anal area suffused with yellow.

Third Instar. Head height 1.2 mm.; head width 1.6 mm. Head slightly more rugose. Not noticeably rougher at vertex than elsewhere. Body length 7 to 11 mm. Markings same as before. General color meadow green. Para-dorsals and spots bright chalcedony yellow.

Fourth Instar. Head height 2.0 mm.; head width 2.4 mm. Head black. Surface broken up into roughly polygonal raised reticulations. Flat scale-like protuberances on apex of head directed away from median line. Not so pronounced as the rugosities in *G. dorantes*. Head very flat-topped. Scattered, very short, colorless hairs. Body length 20 mm. Meadow green. All legs and ventral side of thoracic segments bright chalcedony yellow. Shield con-

colourous with body. Meadow green mid-dorsal line due to absence of the bright chalcedony yellow spots which cover the rest of the body. Spiracles concolorous with body. Larva nearly naked. Very few exceedingly small colorless tapering hairs.

Each instar required four days.

Pyrgus syrichtus Fabr.

Second Instar. Head height .55 mm.; head width .57 mm. Widest at the level of the adfrontal punctures, nearly flat-topped. Piceous. Body length 3.5 mm. Very light greenish. Legs and spiracles concolorous with body. Shield concolorous with head. Many short, colorless, spatulate hairs scattered over the surface of the body. Hairs on subventral fold and anal plate tapering. All hairs arising from prominent cream colored tubercles.

Third Instar. Head height .87 mm.; head width .90 mm. Head piceous, nearly black. More rugose than in foregoing instar. Adorned with scattered colorless tapering hairs. Length of body 6 mm. Shield smooth, piceous. Faded fuscous mid-dorsal line. Six long, colorless, spatulate hairs on either side of the median line in the anterior border of the shield. The more lateral two are located dorsad and slightly cephalad of the large circular brown spiracle. On the posterior edge of the shield there are two to three very short spatulate hairs, also colorless, on each side of the median line. Prothoracic legs same color as shield. Body same as before, slightly darker green.

Fourth Instar. Head height 1.3 mm.; head width 1.6 mm. Body length 10 mm. Not much change from third instar.

Fifth Instar. Head height 2.2 mm.; head width 2.4 mm. Piceous. Very rugose. No conspicuous protuberances at top of vertex. Dense covering of short tawny hairs. Body length 17 mm. A mid-dorsal and, to a lesser extent, a para-dorsal bleaching of the shield. Shield chocolate. Body chrysolite green. Mid-dorsal line faint. Deep chrysolite green. Faint indication of similar narrow para-dorsals. Colorless, slightly spatulate hairs numerous. Arising from

white rounded tubercles. Legs fuscous. Spiracles concolorous with body.

Chrysalis. Length 13.5 mm. Head krönberg's green dorsally. Wing pads, mouthparts, and legs scheele's green. Abdominal segments light dull green yellow. Mid-dorsal line suffused with fuscous and scheele's green. Intersegmental areas course green ventrally. Spiracles black. Numerous long hairs white. Head, thoracic, and abdominal regions hairy. Anterior end rounded. Widest in the region of the posterior edge of the wing pads.

Each instar required three or four days for its completion. Pupation took place July 20, and the imago emerged ten days later. Although small larvæ were unable to survive on the more pubescent species of *Sida*, larger larvæ fed on all the native species.

LITERATURE CITED

- Dethier, V. G. 1940. Life histories of Cuban Lepidoptera. *Psyche*, 47 (1): 14-26.
- Dyar, H. G. 1897. Life history of *Erycides amyntas* Fab. *Entom. News*, 8 (7): 182-183.